

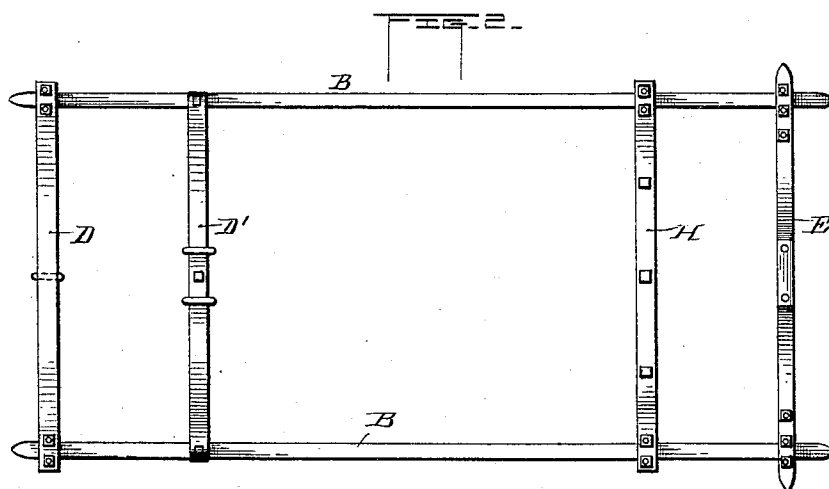
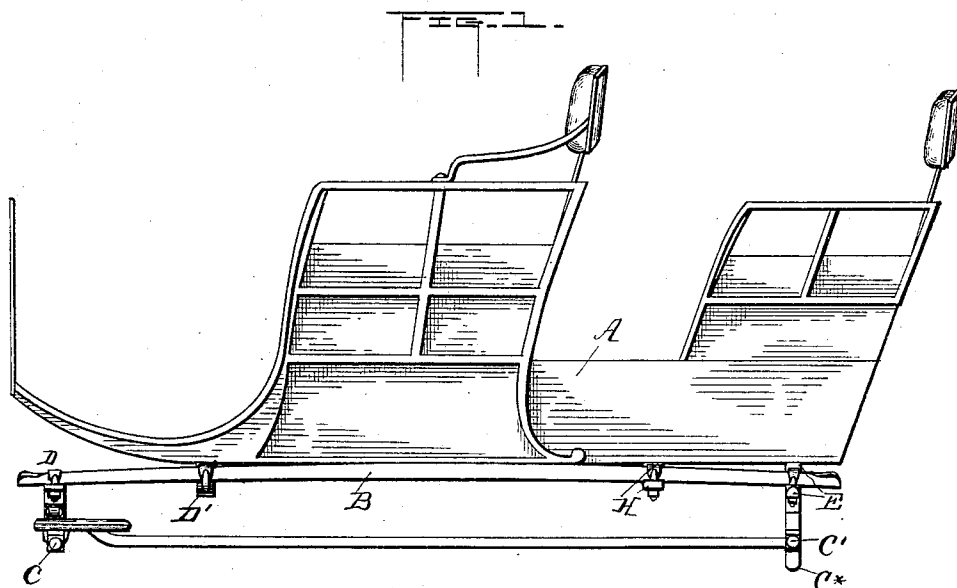
(No Model.)

2 Sheets—Sheet 1.

W. H. SPARKS.
CARRIAGE.

No. 487,788.

Patented Dec. 13, 1892.



Witnesses
Geverance.
Frank J. Lambert

Inventor
William H. Sparks
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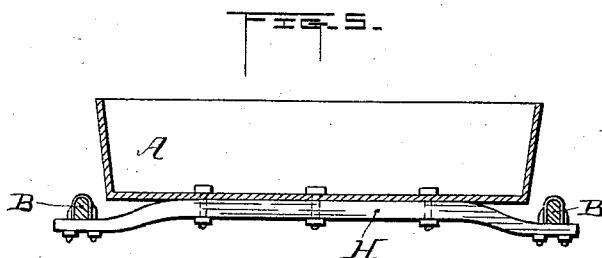
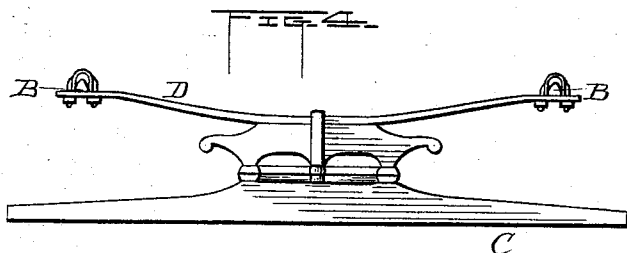
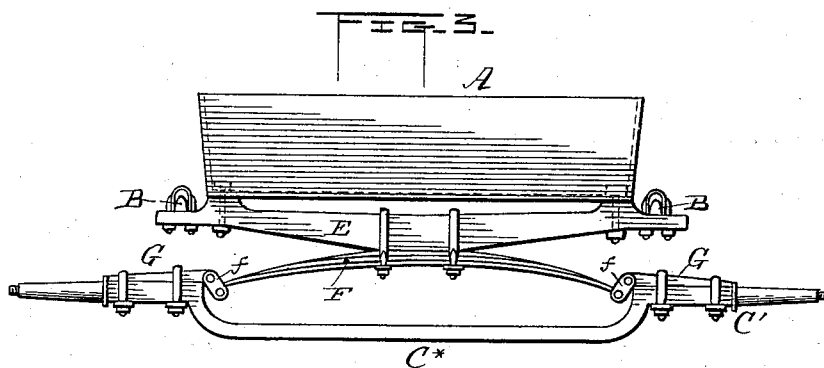
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UNITED STATES PATENT OFFICE.

WILLIAM H. SPARKS, OF CAMDEN, NEW JERSEY.

CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 487,788, dated December 13, 1892.

Application filed November 21, 1891. Serial No. 412,632. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. SPARKS, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Carriages; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in running-gear for carriages, and has for its objects the provision of a novel means for mounting the rear portion of the carriage-body, whereby the wheels can be coupled closer together and a shorter and lighter carriage produced, and consequently one which will run easy, and also the provision of a novel means for equalizing and distributing the weight of the load, so that each spring will bear its proportionate pressure, no matter how many occupants are in the vehicle or what position they occupy therein. To accomplish these objects, I provide a rear bar or bolster, to which the rear spring is secured and also the rear ends of the body and side bars. At this point it has been customary to attach the side bars directly to the rear spring, which necessitates the provision of a longer coupling in order to afford means for attaching the carriage-body to the side bars and to bring the carriage-body forward of the rear spring.

In my invention the carriage-body is attached directly to the rear bar or bolster which is directly over and secured to the rear spring. The spring which I prefer to use in this connection is the semielliptical spring shackled to supports held upon the rear axle, which is preferably bent downward to accommodate the spring and bring the body close to the axle; but it will be readily understood that any desired form of spring or axle can be used in this connection.

To provide for the equalization of the load, I provide an equalizing-bar, which may be attached to any point on the side bars, but preferably a short distance in front of the rear bar or bolster, to which equalizing-bar the

carriage-body is secured. This equalizing-bar is rigid, and while there is no particular point at which it must be placed, the location being to some extent governed by the relative stiffness of the front and rear springs, its best point of location is about the center of the weight when the carriage is loaded on both seats. The weight will then be distributed so as to depress both front and back springs alike, whether both seats or only the front one is occupied. The weight of the load being transmitted to the springs through the stiff side bars and through the rigid equalizing-bar bolted to the rear part of the body and to said side bars, the said equalizing-bar acts somewhat in the manner of the fulcrum of a lever, the stiff side bars being the levers, the short ends of which are rigidly connected to the bolster and the bolster fastened on the rear spring. Consequently the greater part of the load is always thrown upon said rear spring, which is made correspondingly stiffer and heavier than the front spring. The balance of the load is carried by the front spring, which is depressed only so far as the rear spring is forced down. The front spring serves principally to balance the front end of the carriage and carrying scarcely any weight until the rear spring is depressed with the load. When the rear spring is depressed by the load, the front spring, being rigidly connected thereto by means of the side bars, is carried down only so much as the rear spring is depressed. The cross-spring to which the front of the body is secured is of the usual sort, and the weight in the carriage, whether one or both seats be occupied, will bear down upon the side bars at the point of contact of the equalizing-bar, thus causing the front spring to be depressed and bear its due proportion of the load at all times, which would not be the case were it not for the equalizing-bar, which acts as a fulcrum to distribute the weight of the load upon all of the springs. It will thus be seen that a double-seated carriage will always ride level whether one, two, three, or four persons are occupying it, and consequently that the weight of the vehicle can be reduced by reason of this equalization of the load.

It will be seen that the invention is more

particularly applicable to that class of carriages known as "combination-surreys;" but it can be applied to any form of construction.

The accompanying drawings illustrate my invention.

Figure 1 is a side elevation of the running-gear without the wheels and the body secured thereon. Fig. 2 is an inverted plan view of the side bars and attached parts. Fig. 3 is a rear elevation of Fig. 1 with the seat removed. Fig. 4 is a front elevation of the front spring, which is of the usual form; and Fig. 5 is a section taken across the body beside the equalizing-bar.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

A is the body, and B B are the side bars.

C is the front axle, and C' the rear axle.

D is the front spring, and D' is the front cross-spring, which is shackled to the side bars and has the front of the body secured to it.

The parts thus far described by letter may be of any desired or common form, as they constitute no novel feature of this invention.

The rear of the carriage-bed is rigidly secured to a cross bar or bolster E, on which the rear ends of the side bars B are secured by clips in the usual manner. This bolster is preferably made of wood and will be essentially rigid. At the center it is secured to the rear spring F, which may be of any form, but which I have shown and prefer to use as a semielliptical spring which is attached at its ends to supports G, which are secured by clips on the rear axle, the attachment between said spring and said supports being made by the shackles f. To accommodate this form of rear spring, the rear axle C' is bent as shown at C*. The purpose of this construction has already been given.

To equalize the load, I provide a rigid equalizing-bar H at a point preferably in the center of weight when the carriage-body is loaded. This equalizing-bar H is secured upon the side bars by means of clips or any other suitable manner and has the carriage-body attached

to it by bolts or otherwise. It acts as an equalizing-fulcrum and causes all the springs of the vehicle to bear their due proportion of weight in the manner already stated in the opening paragraphs of this specification.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a carriage, the combination, with the body and side bars, of a bar or bolster secured to the rear ends of both said body and said side bars and a spring on which said bar or bolster is secured attached to the rear axle, as set forth.

2. In a carriage, the combination, with the body and side bars, of a bar or bolster secured to the rear ends of said side bars and body, a semielliptical spring to which said bar or bolster is secured, and shackles which secure said spring to supports on the rear axle, as set forth.

3. In a carriage, the combination, with the body and side bars, of a bar or bolster secured to the rear ends of said side bars and body, a semielliptical spring, a curved axle and supports thereon, as described, and shackles connecting said supports with the said spring, the spring and bolster being secured together, as set forth.

4. In a carriage, the combination, with the body, side bars, and rear bolster, of an equalizing-bar rigidly secured to said side bars at a suitable point in front of the bolster and a suitable spring secured to said side bars between the equalizing-bar and the front spring of the carriage, as set forth.

5. In a carriage, the combination, with the body and side bars, of an equalizing-bar rigidly secured to said side bars and body and a rear bolster or bar connecting the body, side bars, and rear spring, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. SPARKS.

Witnesses:

THOS. D. MOWLDS,
FREDK. J. LAMBERT.